

ASSEMBLY FOR RETAINING A LOUVER OF A VERTICAL BLIND ASSEMBLY
IN AN OPERATIVE POSITION

1 BACKGROUND OF THE INVENTION

2

3 Field of the Invention

4 This invention relates to an assembly structured to maintain
5 a secure engagement between a louver and an associated carrier
6 assembly of a vertical blind assembly and includes a support plate
7 connected to and/or defining an upper end of the louver. A
8 retaining clip is removably disposed in clamping engagement with
9 anyone of a plurality of different types of connecting portions
10 associated with the carrier assembly such that attachment between
11 the connecting portion and the support plate is securely
12 maintained.

13

14 DESCRIPTION OF THE RELATED ART

15 Use of vertical blind assemblies to cover windows, sliding
16 doors, etc. has gained wide popularity over the last few years.
17 Conventionally structured vertical blind assemblies normally
18 include a header having an elongated configuration of sufficient
19 length to extend along the upper periphery of the window, door,
20 etc. intended to be covered. The header includes an interior track
21 extending along substantially the entire length thereof and a
22 plurality of carrier assemblies, at least equal in number to the

1 number of louvers, blinds, vanes, etc. associated with the vertical
2 blind assembly. Each of the carrier assemblies include structural
3 features which facilitate easy passage thereof, as well as the
4 louver or blind attached thereto, along the length of the track.
5 A connecting portion is movably connected to each of the carrier
6 assemblies and extends downwardly therefrom to an exterior of the
7 header and in supporting engagement with a corresponding one of
8 louvers.

9 The structural and operative features of each carrier assembly
10 and associated connecting portion is such as to facilitate movement
11 thereof, and the louver supported thereby, along the length of the
12 track of the header assembly, as set forth above. In addition,
13 each of the carrier assemblies are connected to a "tilt rod" also
14 extending along the length of the header assembly and rotatably
15 connected to mechanical linkage of each of the carrier assemblies
16 so as to facilitate selective turning or tilting, in a concurrent,
17 simultaneous fashion, of each of the louvers. Therefore, in
18 typical fashion the plurality of louvers may extend along any
19 portion of the length of the header in overlying relation to the
20 corresponding door, window, etc. and/or be concurrently disposed
21 into any type of slanted or tilted orientation so as to regulate
22 the amount of light passing through the portal. Admittedly,
23 vertical blind assemblies of the type generally described above
24 include distinguishing structural features depending, at least in
25 part, on a particular application for which a vertical blind

1 assembly is intended. In addition, the vertical blind industry is
2 replete with structurally modified components designed to improve
3 the efficiency of the various types of vertical blind assemblies
4 conventionally known and/or commercially available. Efforts to
5 improve vertical blind assemblies include structural variations in
6 the carrier assembly, connecting portion, track configuration, tilt
7 rod, and selectively operable controls for regulating the position
8 and orientation of the plurality of louvers or blinds associated
9 with the vertical blind assembly.

10 By way of example, the structure of the various known carrier
11 assemblies and their corresponding connecting portions may differ
12 significantly. Common to a majority of such carrier assemblies and
13 connecting portions is the ability of the connecting portion to be
14 removably secured to an upper supporting end a corresponding one of
15 the louvers to which it is intended to be connected. Removable
16 attachment between the connecting portion and the louver is
17 provided to facilitate an effective connection therebetween while
18 allowing quick and easy removal of individual ones of the louvers
19 for repair or replacement. However, one disadvantage associated
20 with the conventional manner of interconnecting the upper end of
21 the louver to the connecting portion is the tendency for the
22 louvers to become easily detached therefrom. Such undesirable
23 detachment is particularly prevalent when the collection of louvers
24 or blinds are forced along the length of the track and header
25 assembly in a brisk manner, while a user simultaneously attempts to

1 change the tilted or slanted orientation thereof.

2 Other factors commonly affecting the stability of the
3 interconnection between the connecting portion and the individual
4 louvers is the weight, configuration and overall structure of the
5 louver. By way of example only, a louver may be formed, at least
6 in part, from heavy material components such as decorative chain
7 links disposed in depending relation from and supported by a
8 support structure disclosed adjacent an upper most end of the
9 louver. Accordingly, when the aforementioned support portion is
10 removably secured to anyone of a plurality of different types of
11 connecting portions, the weight of the louver or blind may be such
12 as to facilitate its detachment from the connection portion. Such
13 inadvertent detachment is also common when the louver is subjected
14 to unusual forces, such as engagement with people or objects,
15 exposure to wind gusts, or rapid and simultaneous movement and
16 tilting of the louvers through operation of the controls of the
17 vertical blind assembly.

18 Therefore, there is a significant and long recognized need in
19 the vertical blind industry for an assembly which securely and
20 consistently maintains a supporting interconnection of the
21 connecting portion and individual louvers or blinds associated with
22 the vertical blind assembly. Such an improved retaining assembly
23 should be structured to not interfere with the normal operation of
24 the vertical blind assembly, especially in terms of the collective
25 movement of the louvers or blinds relative to the header assembly

1 and track structure associated therewith. In addition, an
2 improved retainer assembly of the type needed to overcome known
3 disadvantages and problems of the type set forth above should have
4 sufficient structural and operative versatility to be used with any
5 of the different types of connecting structures known or
6 commercially available, especially when such a large number of
7 structurally distinguishable connecting structures are prevalently
8 used in the vertical blind industry.

9

10 SUMMARY OF THE INVENTION

11 The present invention relates to an assembly structured to
12 maintain a secure attachment between individual louvers, blinds,
13 vanes, etc. and corresponding carrier assemblies associated with a
14 vertical blind assembly. The term louver as repeatedly referred to
15 herein is meant to be representative of any of a large category of
16 vertically oriented and suspended flats, vanes, blinds or like
17 members of the type typically associated with a vertical blind
18 assembly. In addition, the retaining assembly of the present
19 invention is not intended to be limited to the secure
20 interconnection and support of the individual louvers, but may also
21 be utilized to secure the interconnection and support of curtain
22 structures and/or components thereof. Therefore, when the
23 structural and operative components of the retaining assembly of
24 the present invention is described with reference to the support of
25 individual louvers to the connecting portion of a carrier assembly,

1 the same structural and operative components may be utilized to
2 support an appropriately structured curtain assembly, without
3 departing from the intended spirit and scope of the present
4 invention.

5 Therefore, the retainer assembly of the present invention
6 comprises a support portion, preferably in the form of an elongated
7 support plate mounted on or connected to an upper most end of a
8 louver. As such, the support plate may be considered a component
9 of the louver and/or an independent structure therefrom. In either
10 case the support plate, rather than the remaining structure of the
11 louver, is considered a part of the present invention. Also,
12 interconnection between the support plate and the remainder of the
13 louver will be dependent on the overall structure of the louver
14 itself. By way of example only, the louver may comprise a
15 plurality of decorative chain links comprising independent strands
16 or lengths having one end movably or fixedly secured to the support
17 plate and depending therefrom in a suspended orientation.
18 Individual strands may be connected or separate from one another
19 and may be formed from a variety of different materials.

20 Moreover, one advantage in using the retaining assembly of the
21 present invention is the ability to make the remaining structure of
22 the louver, other than the support plate, from a variety of
23 different materials. Further, such materials may be relatively
24 heavy when compared to a conventional louver, of the type known in
25 the vertical blind industry.

1 Other structural features of the support plate include an
2 outwardly extending finger or protruding nub integrally or
3 otherwise fixedly secured to an upper periphery of the support
4 plate to facilitate engagement with the aforementioned depending
5 connecting portion of an associated carrier assembly. Moreover,
6 the outwardly extending finger has a mounting aperture formed
7 therein such that a supporting hook or other equivalent structure
8 typically found on various types of connecting portions at least
9 partially passes there through and thereby facilitates connection
10 to the support plate. Again, in many instances it is desirable to
11 structure the connecting portion to facilitate a removable
12 connection the individual louvers thereto. However, as emphasized
13 above, the ability to removably connect the individual louvers to
14 the respective connecting portion also results in an increased
15 possibility of inadvertent attachment of the louvers from the
16 connecting portion.

17 Detachment may also occur because of a lateral displacement of
18 the support plate relative to the connecting portion such as when
19 the louver is being tilted or turned about the axes of the
20 connecting portion. Therefore, the support plate of the present
21 invention also includes a stabilizing assembly mounted thereon and
22 disposed to engage or be positioned in immediate adjacent or
23 contiguous relation to the two peripheral portions of the mounting
24 aperture. The disposition and structure of the stabilizing
25 assembly is such as to prevent or significantly restrict excessive

1 lateral movement of the connecting portion relative to the support
2 plate and in particular the outer protruding finger in which the
3 mounting aperture is formed.

4 Other structural features of the retaining assembly of the
5 present invention include a retaining clip removably secured in
6 retaining relation to the connecting portion and in direct
7 cooperation with the support plate. Moreover, the retaining clip
8 may be removably secured in clamping engagement with opposite parts
9 of the connecting portion so as to securely and efficiently
10 maintain the connecting portion in its supported attachment to the
11 support plate and at least partially within the mounting aperture.
12 As such, the retaining clip is preferably formed of an integral,
13 one-piece construction of flexible material having an at least
14 minimal inherent bias. Further, the retaining clip includes an
15 open interior and at least one access opening disposed and
16 dimensioned to allow passage of the connecting portion and the
17 outwardly extending finger of the support plate there through into
18 the open interior.

19 An interior surface is formed within the open interior of the
20 clip and includes spaced apart retaining surface segments. The
21 surface segments are substantially opposed relative to one another
22 and as overly and/or engage opposite sides of the outwardly
23 extending finger as well as the mounting aperture formed therein.
24 In addition, at least a portion of the interior surface is
25 configured to receive and securely engage an exposed part of the

1 connecting portion. More specifically, in at least one preferred
2 embodiment of the present invention, the configuration of at least
3 one of the surface segments includes a recessed portion disposed,
4 dimensioned and configured to at least partially receive an
5 exterior part of the connecting portion. The recessed
6 configuration of the surface segment thereby serves to at least
7 partially "capture" or retain a corresponding exterior part of the
8 connecting portion therein. Inadvertent lateral or other
9 directional displacement of the retaining clip from its clamping
10 engagement with the connecting portion of the carrier assembly is
11 thereby prevented or significantly restricted.

12 Therefore, it should be apparent that the retaining assembly
13 of the present invention, including the structural and functional
14 features of the support plate and the cooperatively disposed
15 retaining clip, are such as to overcome many of the problems and
16 disadvantages associated with the unintended and inadvertent
17 detachment of the plurality of louvers, vanes or blinds from their
18 respective carrier assemblies. Also, the support plate and
19 retaining clip are structured to be utilized with any of a wide
20 variety of different types of connecting portions, each of which
21 may be structurally distinguishable from one another, wherein a
22 common purpose of all the different connecting portions is the
23 supporting attachment thereof to a corresponding louver, vane,
24 blind, etc.

25 These and other objects, features and advantages of the

1 present invention will become more clear when the drawings as well
2 as the detailed description are taken into consideration.

3

4 BRIEF DESCRIPTION OF THE DRAWINGS

5 For a fuller understanding of the nature of the present
6 invention, reference should be had to the following detailed
7 description taken in connection with the accompanying drawings in
8 which:

9 Figure 1 is a perspective view in partial cutaway of a
10 vertical blind assembly including a retaining clip and a support
11 plate of the present invention.

12 Figure 2 is a side view of a portion of the embodiment of
13 Figure 1 in partial cutaway showing relative positions of the
14 support plate absent the retaining clip connected thereto.

15 Figure 3 is a perspective view of the retaining clip of the
16 embodiment of Figure 1.

17 Figure 4 is a rear view of the embodiment of Figure 3.

18 Figure 5 is a end view showing an access opening of the
19 embodiment of Figures 3 and 4.

20 Figure 6 is a bottom view of the embodiments of Figures 3
21 through 5.

22 Figure 7 is a rear plane view of the support plate of the
23 present invention.

24 Figure 8 is a top view of the embodiment of Figure 7.

25 Figure 9 is a detailed view in partial cutaway of a front

portion of the support plate of the embodiment of Figures 7 and 8.

Figure 10 is a sectional view along line 10-10 of Figure 9.

Figure 11 is a perspective view in partial cutaway and exploded form disclosing the relative positions, immediately prior to assembly, of the retaining clip and support plate relative to a connecting portion of a carrier assembly of a vertical blind assembly of the type disclosed in Figure 1.

Figure 12 is a perspective view in partial cutaway of the support plate of the present invention secured in depending, supported relation to the connecting portion of the carrier assembly.

Figure 13 is an assembled view of the retaining clip and support plate attached to the connecting portion of the carrier assembly, all in an operative position.

Figure 14 is a perspective view in partial cutaway of one of a plurality of connecting portions with which the retaining clip and support plate of the present invention may be utilized.

Figure 15 is a perspective view in partial cutaway of the retaining clip and support plate of the present invention mounted on the connecting portion of Figure 14.

Figure 16 is yet another structural variation of a connecting portion with which the retaining clip and support plate of the present invention may be utilized.

Figure 17 is a perspective view in partially exploded form of the retaining clip and support plate in association with the

1 connecting portion of Figure 16.

2 Figure 18 is yet another structural modification of a
3 connecting portion with which the retaining clip and support plate
4 of the present invention may be utilized.

5 Figure 19 is a perspective view in partial cutaway and
6 exploded form disclosing the retaining clip and support plate of
7 the present invention associated with the connecting portion of
8 Figure 13.

9 Figure 20 is yet another structural variation of a connecting
10 portion with which the retaining clip and support plate of the
11 present invention may be utilized.

12 Figure 21 is a perspective view in partial cutaway of the
13 retaining clip and support plate of the present invention in
14 association with the connecting portion as shown in Figure 20.

15 Figure 22 is a detailed view in perspective of the retaining
16 clip of the present invention.

17 Figure 23 is a perspective view of yet another preferred
18 embodiment of a retainer clip of the present invention.

19 Figure 24 is a perspective view of the embodiment of Figure 23
20 in a closed, operative position.

21 Figure 25 is a perspective view in exploded form of yet
22 another preferred embodiment of a retainer clip structure.

23 Figure 26 is a perspective view of the embodiment of Figure 25
24 in a closed, operative position.

25 Figure 27 is a perspective view of one of two clip portions of

1 the retainer clip of the embodiment of Figures 25 and 26.

2 Like reference numerals refer to like parts throughout the
3 several views of the drawings.

4

5 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

6 As shown in the accompanying drawings, the present invention
7 is directed to an assembly for securely but removably retaining a
8 louver, blind, vane, etc, generally indicated as 10, in an
9 operative, suspended position from a header assembly generally
10 indicated as 12 of a vertical blind assembly represented in Figure
11 1.

12 More specifically, the assembly of the present invention
13 comprises a support plate generally indicated as 14 and a retaining
14 clip generally indicated as 16. A most preferred embodiment of the
15 assembly of the present invention including support plate 14 and
16 the retaining clip 16 will be described with reference to the
17 secure retention of the louver 10 in its operative position.
18 However, it is emphasized that the specific structure of the louver
19 may vary greatly from that represented in the various accompanying
20 Figures. Similarly, the various structural components of the
21 vertical blind assembly such as, but not limited to, the structural
22 features of the carrier assembly (not shown for purposes of
23 clarity) and accompanying connecting portion associated therewith
24 may also vary significantly. Moreover, it is recognized in the
25 vertical blind industry that a variety of different connecting

1 portions are available to support individual louvers, blinds,
2 vanes, etc. from the individual carrier assemblies and from the
3 header assembly 12. Accordingly, the structural and functional
4 versatility of the assembly of the present invention facilitates
5 its use with any one of a large number of connecting portions each
6 of which, while being structurally distinguishable from one
7 another, serve to support individual louvers from the header
8 assembly 12 in a similar manner. Therefore, a plurality of
9 different connecting portions presented in the accompanying Figures
10 will each be indicated by a separate reference numeral.

11 Also, with primary reference to Figures 1 and 2 the structure
12 of the remainder of the louver 10, as distinguished from the
13 support plate 14, comprises a plurality of elongated linked chains
14 or strands 18 wherein each of the individual links 20 are movably
15 secured to next adjacent links of a respective strand or length 18.
16 Further, the upper most end links as at 20' are each secured to a
17 lower peripheral or border portion 22 of the support plate 14
18 through the provision of a plurality of apertures 24 formed therein
19 as demonstrated in Figure 1. The individual links 20 and
20 accordingly the remainder of the louver 10 may be formed from a
21 variety of different materials. However, when formed from metal or
22 other relatively heavy material the advantage of utilizing the
23 retaining assembly of the present invention, including the support
24 plate 14 and the retaining clip 16 is obviously beneficial, as set
25 forth in greater detail herein after.

1 It is also emphasized that the specific structure of the
2 louver 10, other than the support plate 14, may vary significantly
3 from the plurality of elongated strands of linked chains or similar
4 structure. Further, the support plate 14 is located on an upper
5 most end of the louver 10 and, dependant upon the specific
6 structural features of the remainder of the louver 10, the support
7 plate 14 may or may not be considered an integrated part of the
8 louver 10. Regardless, the retaining assembly of the present
9 invention comprises the support plate 14 and the retaining clip 16
10 separate and apart from the remaining structure of the louver 10
11 depending from and supported by the support plate 14.

12 Other structural features of the support plate 14 are clearly
13 represented in Figures 2 and 7 through 10. As disclosed, the
14 support plate 14 preferably includes an elongated body 26 formed of
15 a substantially rigid material having sufficient strength to
16 support a remainder of the louver 10 in depending relation
17 therefrom. A spacer member 28 is formed on and extends outwardly
18 from one surface of the support plate 14 a sufficient and/or
19 predetermined distance to facilitate a desired spacing between the
20 individual louvers 10 when they are disposed in adjacent relation
21 to one another, as demonstrated in Figure 2. Naturally, the length
22 of the spacer structure 28 and the distance it extends outwardly
23 from the body 26 may vary so as to correspondingly vary the
24 intended or predetermined spacing between the louvers 10 when
25 arranged in adjacent relation to one another.

1 As set forth above, the support plate 14 is intended to be
2 supported in a downwardly suspended relation to the connecting
3 portion 30 of a corresponding carrier assembly. As will be
4 described in greater detail hereinafter with regard to various ones
5 of the accompanying Figures, the structural features of the
6 different types of connecting portions may vary. However, common
7 to all, or at least a majority of the connecting portions are
8 structural features which facilitate their supporting and
9 preferably removable attachment to the support plate 14. To
10 accomplish such attachment, the support plate 14 includes an
11 outwardly extending mounting finger generally indicated as 40.
12 The mounting finger 40 also includes a mounting aperture 42 through
13 which an engaging member of the support portion 30, or other type
14 of support portion, at least partially passes. As such, the
15 mounting aperture 42 may include grooves or channels 44 to
16 accommodate the different structures of the connecting portions as
17 will be further described.

18 Although not shown in all of the accompanying Figures, a most
19 preferred embodiment of the support plate 14 includes the provision
20 of a stabilizing assembly 46 including at least one but preferably
21 two, spaced apart stop member 48 formed on at least one side
22 surface of the body 26 and extending outwardly therefrom. Further,
23 each of the stop members 48 are disposed immediately adjacent or
24 contiguous to oppositely dispose peripheral portions of the
25 mounting aperture 42. As such, the stop members 48 are disposed in

1 spaced apart relation to one another a distance sufficient to
2 permit the disposition there between of an engaging member 30' of
3 the connecting portion 30. For purposes of clarity, the
4 positioning of the engaging member 30' of the connecting portion 30
5 is represented in phantom lines in Figure 9 and in full lines in
6 Figure 11. It is again emphasized that the various connecting
7 portions may very well be structurally distinguishable. Therefore
8 regardless of its configuration, the engaging member 30' of the
9 connecting portion 30 is disposable between and in contained
10 relation to the stop members 48. However, the outward extension of
11 the stop members 48 from the corresponding surface 26' and their
12 close proximity to the periphery of the mounting aperture 42
13 eliminates or significantly restricts any undesirable lateral
14 displacement between the engagement member 30' and the support
15 plate 14 as well as the inadvertent detachment of the engaging
16 member 30' from the mounting aperture 42. Such lateral
17 displacement is undesirable in that it will further facilitate the
18 inadvertent detachment of the support plate 14 and the remainder of
19 the louver 10 from its intended suspended and supported position
20 relative to the connecting portion 30 and its respective carrier
21 assembly.

22 With primary reference to Figures 3 through 6 and 22, another
23 feature of the retaining assembly of the present invention includes
24 the aforementioned retaining clip 16. As disclosed, the retaining
25 clip 16 preferably includes an integral or one piece construction

1 having opposite sides 50 and 52 disposed in spaced, substantially
2 opposing relation to one another and being interconnected by a
3 bridge portion 54 located substantially at one end of the clip 16.
4 An access opening generally indicated as 56 is located opposite to
5 the bridge 54 and is disposed in communicating relation with an
6 open interior 58. The retaining clip 16 is preferably formed from
7 a flexible material comprising at least a minimal inherent bias.
8 As such, the access opening 56 is disposed and cooperatively
9 dimensioned relative to the sides 50 and 52 so as to allow an
10 outward flexing or expansion of the sides 50 and 52. Such
11 flexibility allows the passage of various types of connecting
12 portions, such as 30 to pass through the access opening 56 into the
13 open interior 58. Due to the aforementioned inherent bias, the
14 retaining clip 16 will attempt to assume its normal or original
15 configuration, wherein the connection portion 30 is sandwiched
16 within the open interior 58 and between the sides 50 and 52.

17 As further demonstrated, the retaining clip 16 also includes
18 an interior surface extending substantially continuously about the
19 interior portions of the sides 50 and 52 as well as the bridge 54.
20 As such, the interior surface 60 includes at least two surface
21 segments 62 and 64. In order to further facilitate retaining
22 engagement of the retaining clip 16 in at least partially
23 surrounding and clamping engagement with any one of the connecting
24 portions, such as at 30, the interior surface 60 and more
25 specifically at least one of the surface segments 62 include a

1 substantially recessed configuration as at 66. The recessed
2 configuration 66 of the surface segment 62 is disposed, dimensioned
3 and configured to receive at least one part of any one of the
4 connecting portions with which it is used. As shown in Figure 13
5 the recessed configuration 66 receives an exposed part of the
6 engaging member 30' on one side of the support plate 14. The
7 recessed configuration 66 thereby further restricts inadvertent and
8 undesirable lateral displacement of the retaining clip 16 relative
9 to any of the connecting portions, to be described in greater
10 detail hereinafter. In its operative position as shown in Figures
11 1 and 13, the opposite sides 50 and 52 are located on opposite
12 sides of the connection portion 30, 30' as well as on opposite
13 sides of the support plate 14 and specifically in clamping,
14 sandwiching relation to the connecting portion 30 and the engaging
15 member 30' associated therewith.

16 As set forth above, the structural and functional versatility
17 of the retaining assembly of the present invention is demonstrated
18 by virtue of the support plate 14 and the retaining clip 16 being
19 adapted for use with any of a variety of different connecting
20 portions, all of which operate in a similar or substantially
21 identical fashion in terms of supporting the individual louvers 10
22 in their intended, suspended position. As previously described
23 with reference to Figures 1, 9 and 11 through 13, one type of
24 connecting portion is indicated as 30. Connecting portion 30
25 includes the engaging member 30' which fits over the mounting

1 finger 40 and passes at least partially through the mounting
2 aperture 42 formed therein. As shown in Figure 11 the retaining
3 clip 16 is applied in retaining, clamping engagement to the
4 connecting portion 30 as indicated by a corresponding directional
5 arrow. Similarly, the connecting portion 30 is secured to the
6 support plate 14 as indicated by the other directional arrow of
7 Figure 11. Once the connecting portion 30 is disposed in
8 supporting relation to the support plate 14, the retaining clip 16
9 is applied in its operative, clamping engagement relative to the
10 connector portion 30 and the engaging member 30' as indicated in
11 Figure 13.

12 Figures 14 and 15 represent yet another type of connecting
13 portion 32 being structurally distinguishable from the connecting
14 portion 30. More specifically, connecting portion 32 includes an
15 outwardly extending hook like engaging member 32' which passes
16 through the mounting aperture 42 of the finger 40 in the manner
17 described above. Once the support plate 14 is mounted on the
18 connecting portion 32 as represented in Figure 15, the retaining
19 clip 16 is applied in at least partially surrounding, clamping
20 engagement to the connecting portion 32 and the engaging member 32'
21 by forcing the connecting portion 32 through the access opening 56
22 as also indicated by the included directional arrow.

23 Similarly, Figures 16 and 17 represent yet another,
24 structurally distinguishable connecting portion 34 having an
25 engaging portion 34'. Interior projections 35 pass into the

1 mounting aperture 42 for supporting attachment of the support plate
2 14 in the intended suspended orientation. As with the previously
3 described embodiments, the retaining clip 16 is forced over and in
4 surrounding, clamping relation to the connecting portion 34 as the
5 connecting portion 34 passes through the access opening 56. As
6 also described with the previously noted embodiments the recessed
7 configuration 66 of the interior surface segment 62 receives at
8 least one exposed part of the connection portion 34 such as at or
9 about the engaging member 34'.

10 With primary reference to Figures 18 through 21, additional
11 structurally distinguishable connecting portions 36 and 38 are
12 respectively disclosed in Figures 18, 19 and 20, 21. Each of the
13 connecting portions 36 and 38 include engaging members 36' and 38'
14 respectively which pass through the mounting aperture 42 of the
15 mounting finger 40. Once the support plate 14 is supported in its
16 intended, suspended orientation, the retaining clip 16 is forced
17 over and in surrounding, clamping engagement with the respective
18 connecting portions 36 and 38 in a manner which retains the
19 respective engaging members 36' and 38' within the recessed
20 configuration 66 of the surface segment 62.

21 With reference to Figure 22 it is emphasized that the recessed
22 surface configuration 66 could be formed on the opposite surface
23 segment 64 (see Fig. 4) rather than surface segment 62. As yet
24 another preferred embodiment the recessed surface segment 66 could
25 be formed on both of the surface segments 62 and 64 as well as on

1 other portions of the interior surface 60 within the open interior
2 58 of the retaining clip 16. Also, it is emphasized that the
3 retaining clip 16 can be mounted in retaining engagement with the
4 connecting portions 30, 32, 34, 36, 38, etc, from either side
5 thereof rather than only the one side indicated by the directional
6 arrows of Figures 11, 17, 19, and 21.

7 Accordingly, the retaining assembly of the present invention
8 comprising the support plate 14 and the retaining clip 16 is
9 readily adaptable for use in combination with a number of vertical
10 blind assemblies and/or equivalent structures used to support
11 curtain segments rather than the louvers 10 wherein any number of
12 commercially available, conventional or even customized connecting
13 portions 30, 32, 34, 36, 38, etc. may be utilized to support and
14 suspend the respective louvers (or curtain segments) from
15 appropriate carrier assemblies or other operative components of the
16 header assembly 12 as set forth above.

17 As set forth in greater detail hereinafter the retaining
18 assembly of the present invention may further include additional
19 preferred embodiments which include structural modifications of the
20 retaining clip 16 as described above with reference to Figures 1
21 through 22 above. It is emphasized, that while the retaining
22 assembly of the present invention has been described in the above
23 noted Figures specifically with reference to retaining clip 16, the
24 additional preferred embodiments of the retaining clips 16' and/or
25 16" can be substituted therefore.

With primary reference to Figures 23 and 24, the retaining clip 16' comprises at least two clip portions more specifically defined as a first clip portion 70 and a second clip portion 72 which are connected together to assume the closed, operative position of Figure 24. Interconnection of the first and second clip portions 70 and 72 may be accomplished by at least one but preferably two connectors 74 which may include an externally threaded configuration. As such, each of the connectors 74 pass through openings 76 and into aligned channels or openings formed in the mating portions 78 of the first clip portions 70. It should be further noted that the first and second clip portions 70 and 72 are cooperatively dimensioned and configured so as to define an open interior generally indicated as 80 there between. As is clearly evident, the open interior 80 differs from the open interior 58 of the embodiment of Figures 3 through 6 by having a substantially closed periphery bounded and collectively defined by corresponding parts of the first and second clip portions 70 and 72. However, as with the open interior 58, the open interior 80 is dimensioned and configured to receive any of a variety of different types of connecting portions 30 therein.

Similarly, the open interior 80 has an interior surface extending continuously about its periphery and including at least two substantially opposed surface segments 82 and 84 respectively formed on the first and second clip portions 70 and 72. At least one of the surface segments 82 at least partially defines a

1 recessed configuration as at 86 which facilitates receipt,
2 retention and clamping engagement with corresponding parts of the
3 connecting portion 30 as described with regard to the use of the
4 clip 16 of the embodiment of Figures 3 through 6. In addition,
5 surface segment 84, associated with the second clip portion 72, may
6 also at least partially define the recessed configuration of the
7 interior surface. More specifically, recess or indentation 88 is
8 formed on the interior surface of the second clip portion 84 and is
9 dimensioned and disposed to further facilitates the receipt,
10 retention and clamping engagement of the connecting portion within
11 the open interior 80. As is evident such clamping engagement is
12 accomplished upon the first and second clip portions 70 and 72
13 being connected in the closed, operative position of Figure 24.

14 Other structural features of the retainer clip 16' includes
15 one or more cavities as at 90 formed in at least the second clip
16 portion 72 for purposes of facilitating the manufacturer thereof
17 and reducing weight and/or material utilized for the formation of
18 the retaining clip 16'.

19 Figures 25 through 27 disclose yet another preferred
20 embodiment of the retaining clip 16". As represented, the
21 retaining clip 16" resembles the retaining clip 16' and is clearly
22 distinguishable from the retaining clip 16 by virtue of it
23 comprising at least two clip portions. More specifically,
24 retaining clip 16" comprises a first clip portion 92 and a second
25 clip portion 94. The first and second clip portions 92 and 94 are

1 removably connected to one another by the provision of at least
2 one, but preferably two connectors 74 passing through aligned
3 channels or openings 97 in the mating portions 98 and 98' of the
4 first and second clip portions 94 and 97.

5 When the first and second clip portions 92 and 94 are in the
6 closed, operative position of Figure 26, an open interior generally
7 indicated as 100 is formed there between. Similar to the
8 embodiment of Figures 23 and 24, the open interior 100 includes a
9 closed peripheral configuration and interior surface 102. The
10 interior surface comprises substantially opposed interior surface
11 segments 104 and 106 respectively formed on first and second clip
12 portions 92 and 94. In addition, the interior surface 102
13 comprises a recessed configuration as at 108. However, in this
14 preferred embodiment of the retainer clip 16", the recessed
15 configuration may be further defined by a second recess or indented
16 area 110. The recessed areas or portions 108 and 110 are disposed
17 in substantially opposing relation to one another so as to receive,
18 retain and be disposed in clamping engagement with opposite,
19 corresponding parts of the connecting portion as at 30 as described
20 with reference to the embodiments of Figures 1 through 22.

21 Additional structural features of the preferred embodiment of
22 the retaining clip 16" of Figures 25 through 27 include a beveled
23 area 114 disposed in communicating relation with the recessed area
24 108. The beveled area 114 is provided to further facilitate
25 receipt, retention and clamping engagement with connecting portions